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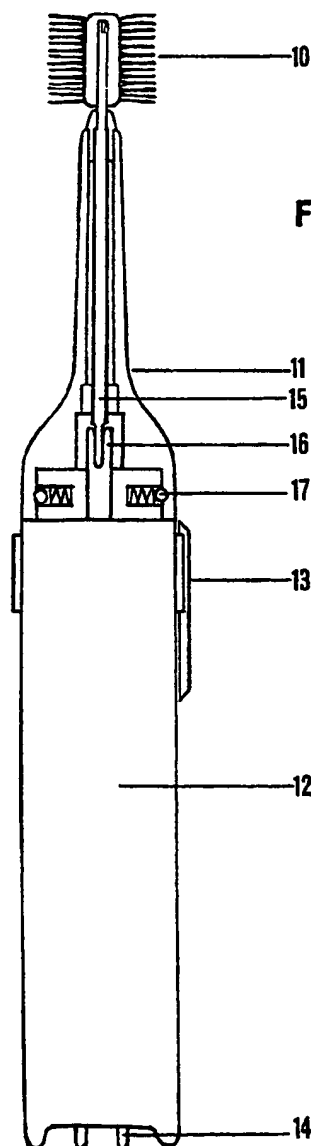
(52) UK CL (Edition M )  
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**U1S S1125**

(56) Documents Cited  
**GB 2116027 A GB 2080099 A EP 0046521 A**  
**US 4845796 A US 4397055 A**

(58) Field of Search  
**UK CL (Edition L ) A4K KBC**  
**INT CL<sup>5</sup> A46B, A61C**

## (54) Rotating toothbrush

(57) A rotary toothbrush comprises a cylindrically shaped brush head (10) connected to an electrically driven drive shaft (16) by a spindle (15) housed in a moulded shank (11), formed into a sleeve at its lower part and which can be attached to a power supply body (12) fitted with a switch (13) capable of reversing the rotation of the drive, and thus the direction of rotation of the brush head (10).



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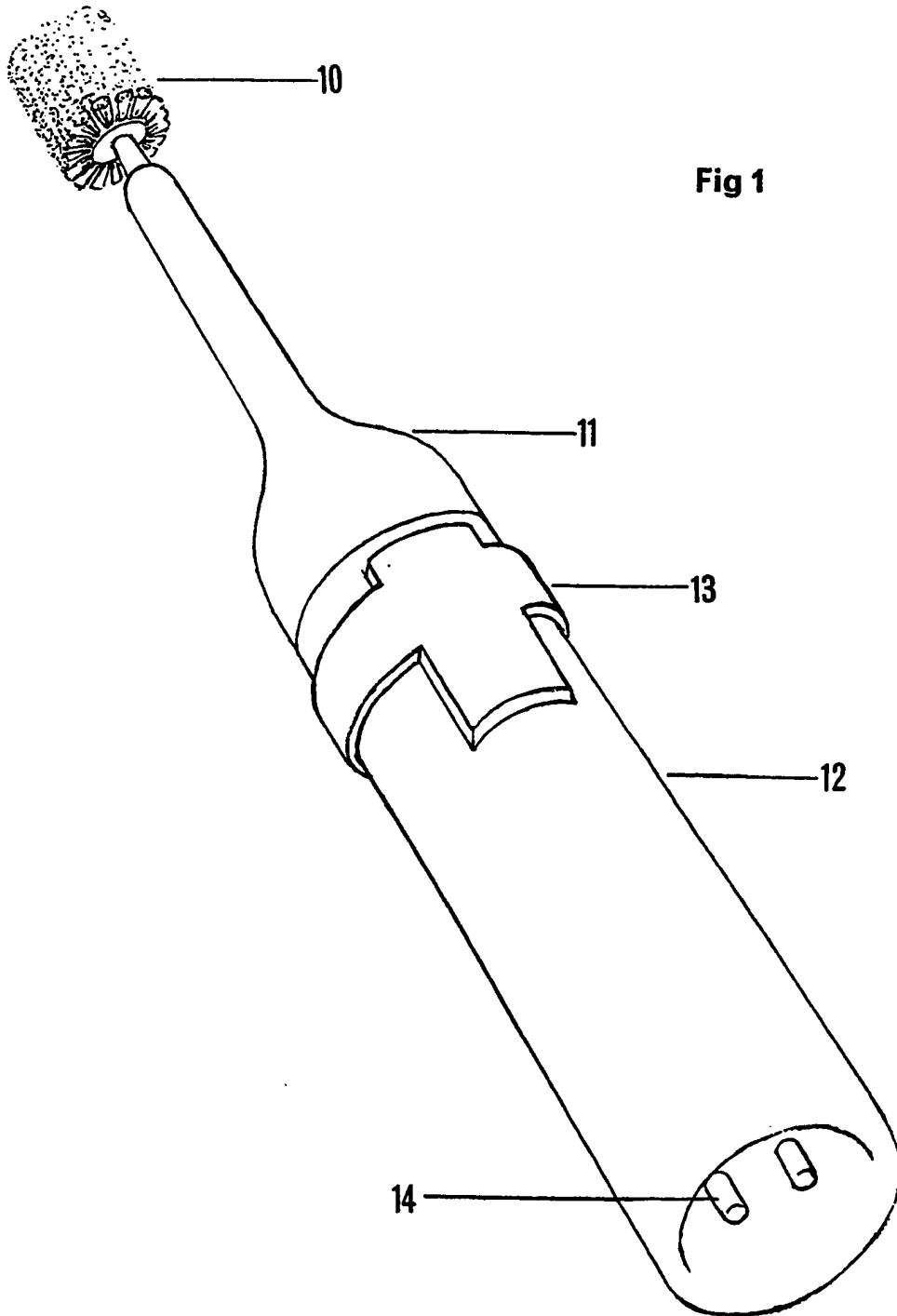


Fig 1

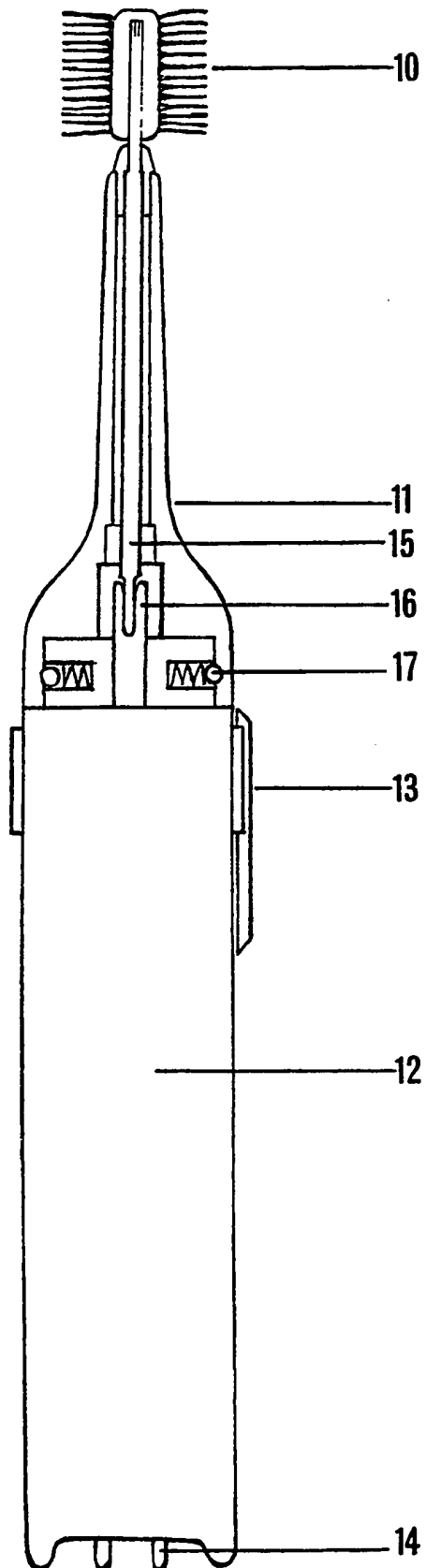


Fig 2

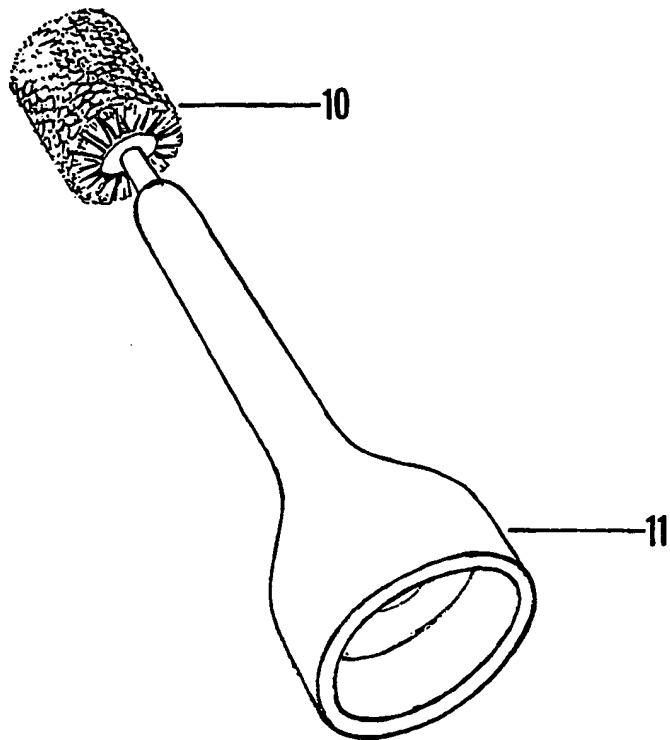
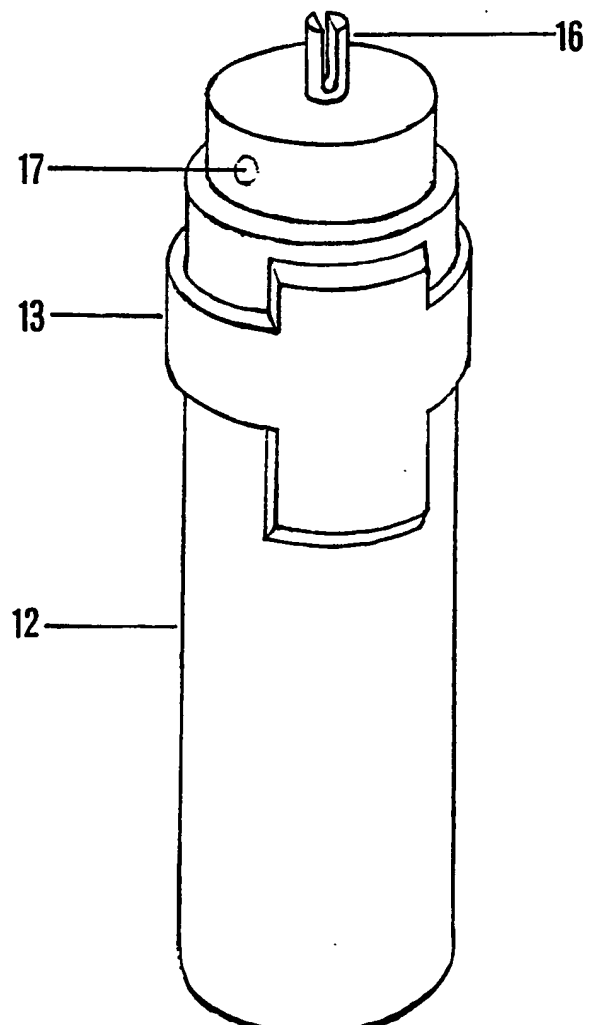


Fig 3



## ROTATING TOOTHBRUSH

This invention relates to an electrically driven rotating toothbrush.

Electrically driven toothbrushes are well known and operate by vibrating a bristle head similar to that of a conventional toothbrush. They clean the teeth by vibrating through a limited arc when held against the teeth.

One disadvantage of this method of cleaning is that the brush can vibrate against the gum edge and eventually may cause gum recession.

In order to overcome the problem of gum recession, this invention, a cylindrically shaped rotating tooth brush, has been developed.

The brush action ensures that the bristles sweep from the gums onto the teeth as recommended by dentists to patients who use conventional toothbrushes. The brush rotation direction can be reversed by operating a switch on the main body of the brush holder, so that the correct action of the bristles can be maintained on all teeth and gum surfaces.

The brush bristle head and shank can be removed so that different members of a family may attach their own brush head and shank to the main body.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawings, in which:

Figure 1 shows in perspective the assembled electrically operated rotating toothbrush,

Figure 2 illustrates the internal workings of the detachable brush head and shank,

Figure 3 shows the brush head and shank detached from the main body.

Referring to the drawings, the device comprises of a plastic body 12 containing an electric motor and a detachable cylindrically shaped tooth brush 10 mounted on a plastic shank 11. The main body has an on/off switch 13 which also can be used to reverse the rotation of the electric motor, a rechargeable battery with prongs 14 to connect to a recharging unit (not shown) and a drive shaft 16 to connect the drive to the rotating head spindle 15.

In order to change the tooth brush head, the shank 11 is pulled away from the main body and the replacement shank is pressed onto the main body 12 where it is secured by spring loaded ball bearings 17 pressing into cavities in the inside collar of the shank 11.

The drive shaft 16 is connected to the rotating head spindle 15 by a loose fitting simple joint comprising of the drive shaft end being formed into a 'U' shape and brush drive spindle end being formed into a flat which fits into the 'U' shape drive shaft end 16.

**CLAIMS**

- 1**     A cylindrically shaped rotating toothbrush 10 which is connected to an electrically driven drive shaft 16 by a spindle 15 housed in a moulded shank 11 formed into a sleeve at its lower part which can be attached to a power supply body 12 fitted with a switch 13 capable of reversing the rotation of the drive.
- 2**     A rotating toothbrush substantially as described herein with reference to Figures 1 - 3 of the accompanying drawings.

**Patents Act 1977**  
**Examiner's report to the Comptroller under**  
**Section 17 (The Search Report)**

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**Relevant Technical fields**

UK Cl (Edition L ) A4K (KBC)

(ii) Int Cl (Edition 5 ) A46B, A61C

**Search Examiner**

DR C L DAVIES

**Databases (see over)**

(i) UK Patent Office

(ii) ONLINE DATABASE: WPI

**Date of Search**

16 AUGUST 1993

Documents considered relevant following a search in respect of claims

1-2

Category (see over)	Identity of document and relevant passages		Relevant to claim(s)
X	GB 2116027 A	(HUNT) See Figures; Page 1, lines 63 to 65; line 105	1
X	GB 2080099 A	(BENZ) See Figures 1 and 3; page 1, line 40 to 43 and lines 113 to 122	1
X	EP 0046521 A1	(LAZZARI) See Figures and page 4, lines 1 to 5; page 8, lines 16 to 29 and page 9, lines 1 to 7	1
X	US 4845796	(MOSLEY) See Figures; column 1, line 24; column 2 lines 7 to 10, 15 to 16	1
X	US 4397055	(CUCHIARA) See Figures, column 1, lines 40 to 41 and column 2, lines 16 to 29	1



**Categories of documents**

**X:** Document indicating lack of novelty or of inventive step.

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